

ABSTRACT

The invention resides in part in the discovery that G proteins other than $G_{\alpha_{15}}$ couples to T1R and T2R taste receptors, particularly G_i proteins such as G_{α_i} . Related to this discovery, the invention provides cell-based assay methods for identifying compounds that modulate the activity of specific T1R or T2R taste receptors or which modulate the effect of other T1R or T2R modulators on T1R or T2R activity. These assay methods preferably detect the effect of a putative T1R or T2R modulator compound on MAPK activation, cAMP accumulation, or adenylyl cyclase activity or another signaling pathway regulated by G_i proteins. The level of MAPK activation, cAMP accumulation or adenylyl cyclase is preferably determined by immunoassay methods that use ligands (monoclonal or polyclonal antibodies) that specifically bind an activated (phosphorylated) MAPK, cAMP, or adenylyl cyclase.

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